

## Author Index of Volume 57

- Adeleye, S.A., 53  
Alfani, F., B23  
Antonini, G., 9  
Arnošt, D., 91  
Auvil, S.R., 137  
Azzaro, C., 39
- Bakker, W.J.W., 145  
Baldi, G., 205  
Bao-Ru, Y., 253  
Bi, H.T., 261  
Boni, A., 9  
Boniardi, N., B37
- Cantarella, M., B23  
Carmichael, K.E., 299  
Chau-Jen, L., 253  
Chisti, Y., B7  
Costa, C.A.V., 285  
Couderc, J.P., 39  
Counioux, J.J., 61
- Dai, G.C., B31  
Das, T.C.T., 237  
Delalu, H., 61  
Dias, M.M., 101  
Díaz, M., 17  
Dodds, J., 247
- El Khatib, M., 61  
Evren, V., 67
- Fernández, A., 17  
François, O., 9
- Gallifuoco, A., B23  
Gorak, A., 229  
Gourdon, C., 229  
Grace, J.R., 261  
Gupta, S.K., B15
- Hoffmann, U., 219
- Ityokumbul, M.T., 303
- Jamal, A., 27  
Joulia, X., 229
- Kakati, M.C., 295  
Kapteijn, F., 145  
Kenig, E.Ya., 189  
Kleijn, C.R., 127  
Kooijman, H.A., 177  
Kraaijeveld, G., 75, 163  
Krishna, R., 155  
Kuijlaars, K.J., 127  
Kuindersma, S., 163
- Leclerc, D., 247
- Marchand, A., 61  
Moo-Young, M., B7  
Moulijn, J.A., 145
- Nan, H.S., 101  
Nano, G., B37  
Naveau, H., B1  
N'kpomin, A., 9  
Nowosielski, J., 1  
Nyns, E.-J., B1
- Özdural, A.R., 67
- Pandit, P., 237  
Pohorecki, R., 1  
Poppe, J., 145  
Prem Kumar, R.S., 237
- Ramachandran, K.B., B15  
Rao, D.P., 237  
Rathore, A.S., B15  
Rodrigues, A., 17  
Rodrigues, A.E., 101, 285  
Romano, V., B23  
Rota, R., B37
- Schneider, P., 91  
Schork, J.M., 137  
Shaikh, A.A., 27  
Shen, J.P., B31  
Singh, K.P., 295  
Srinivasan, R., 137  
Sumberova, V., 163  
Sun, W., 285  
Sundmacher, K., 219
- Tan, W.S., B31  
Taylor, R., 177  
Thalasso, F., B1
- Ul-Haq, E., 53
- Valerio, S., 205  
Van Damme, R.M.J., 115  
Van den Akker, H.E.A., 127  
Van den Broeke, L.J.P., 155  
Vanni, M., 205  
Van Swaaij, W.P.M., 115, 273  
Vatta, G., B37  
Veldsink, J.W., 115, 273  
Versteeg, G.F., 115, 273  
Vonk, P., 75
- Wenge, F., B7  
Wesselingh, H., 163  
Wesselingh, J.A., 75  
White, D.A., 53
- Xu, Y., 247
- Ye, W., B31
- Zarook, S.M., 27  
Zheng, G., 145  
Zimmermann, A., 229

100-100000  
100-100000  
100-100000

100-100000

100

## Subject Index of Volume 57

### Absorption

- activity of the ionic bubbles during absorption with chemical reaction on column plates, 1
- boundary-value problems in reactive gas absorption, 27
- a new technique for the determination of mass transfer coefficients in packed columns for physical gas absorption systems, 67

### Activity

- activity of the ionic bubbles during absorption with chemical reaction on column plates, 1

### Adsorption

- mass transfer in carbon molecular sieves—an interpretation of Langmuir kinetics, 137

### Agglomeration

- charcoal deashing by an oil agglomeration process: effect of various operating parameters, 9

### Airlift bioreactor

- local flow behavior of the liquid phase in an airlift bioreactor for potential use in animal cell suspension cultures, B31

### Airlift reactor

- relationship between riser and downcomer gas hold-up in internal-loop airlift reactors without gas–liquid separators, B7

### Animal cell cultures

- local flow behavior of the liquid phase in an airlift bioreactor for potential use in animal cell suspension cultures, B31

### Biokinetics

- dynamic modelling of waste-water treatment plants based on *Lemna gibba*, B37

### Bioreactor

- design and performance of a bioreactor equipped with a Venturi injector for high gas transfer rates, B1
- relationship between riser and downcomer gas hold-up in internal-loop airlift reactors without gas–liquid separators, B7

### Cake-filtration theory

- optimization of a discontinuous microfiltration–backwash process, 247

### Catalyst

- determination of effective diffusivities and convective coefficients of pure gases in single pellets, 285

### Charcoal deashing

- charcoal deashing by an oil agglomeration process: effect of various operating parameters, 9

### Chemical vapour deposition

- multi-component diffusion phenomena in multiple-wafer chemical vapour deposition reactors, 127

### Combustion

- intrinsic kinetics of the oxidation of methane over an industrial copper(II) oxide catalyst on a  $\gamma$ -alumina support, 273

### Composition profiles

- multicomponent tray efficiencies accounting for entrainment, 237

### Comprehensive models

- comprehensive models for computation of the specific energy of coals, 295

### Computational fluid dynamics

- multi-component diffusion phenomena in multiple-wafer chemical vapour deposition reactors, 127

### Convection

- determination of effective diffusivities and convective coefficients of pure gases in single pellets, 285

### Cross-flow filtration

- optimization of a discontinuous microfiltration–backwash process, 247

### Decontamination

- freezing in an ultrasonic bath as a method for the decontamination of aqueous effluents, 53

### Diffusion

- exploring the Maxwell–Stefan description of ion exchange, 75
- mass transfer in carbon molecular sieves—an interpretation of Langmuir kinetics, 137
- permeation and separation of light hydrocarbons through a silicalite-1 membrane. Application of the generalized Maxwell–Stefan equations, 145
- modelling electrodialysis using the Maxwell–Stefan description, 163
- determination of effective diffusivities and convective coefficients of pure gases in single pellets, 285

### Distillation

- multicomponent tray efficiencies accounting for entrainment, 237

### Dusty-gas model

- effect of forced convection on reaction with mole changes in porous catalysts, 101
- the use of the dusty-gas model for the description of mass transport with chemical reaction in porous media, 115

### Dynamic transport

- dynamic transport of multicomponent mixtures of gases in porous solids, 91

### Effluent

- freezing in an ultrasonic bath as a method for the decontamination of aqueous effluents, 53

### Electrodialysis

- modelling electrodialysis using the Maxwell–Stefan description, 163

### Entrainment

- multicomponent tray efficiencies accounting for entrainment, 237

### Extraction

- extraction of trivalent europium via a supported liquid membrane containing PC-88A as a mobile carrier, 253



- Fick formulation
  - the Maxwell-Stefan description of mass transport across zeolite membranes, 155
- Fick model
  - the use of the dusty-gas model for the description of mass transport with chemical reaction in porous media, 115
- Fixed-bed reactor
  - intrinsic kinetics of the oxidation of methane over an industrial copper(II) oxide catalyst on a  $\gamma$ -alumina support, 273
- Flow pattern
  - effect of measurement method on the velocities used to demarcate the onset of turbulent fluidization, 261
- Fluidization
  - effect of measurement method on the velocities used to demarcate the onset of turbulent fluidization, 261
- Fluidized bed
  - effect of measurement method on the velocities used to demarcate the onset of turbulent fluidization, 261
- Forced convection
  - effect of forced convection on reaction with mole changes in porous catalysts, 101
- Freezing
  - freezing in an ultrasonic bath as a method for the decontamination of aqueous effluents, 53
- Fuel ether production
  - oscillatory vapor-liquid transport phenomena in a packed reactive distillation column for fuel ether production, 219
- Gas
  - boundary-value problems in reactive gas absorption, 27
- Gas hold-up
  - relationship between riser and downcomer gas hold-up in internal-loop airlift reactors without gas-liquid separators, B7
- Gas transfer
  - design and performance of a bioreactor equipped with a Venturi injector for high gas transfer rates, B1
- Growth rate
  - dynamic modelling of waste-water treatment plants based on *Lemna gibba*, B37
- Heterogeneous reaction
  - effect of forced convection on reaction with mole changes in porous catalysts, 101
  - the role of non-ideal phenomena in interfacial mass transfer with chemical reaction, 205
- Hydrocarbon
  - permeation and separation of light hydrocarbons through a silicalite-1 membrane. Application of the generalized Maxwell-Stefan equations, 145
- Hydrodynamics
  - relationship between riser and downcomer gas hold-up in internal-loop airlift reactors without gas-liquid separators, B7
- Immobilized enzyme
  - modelling the effects of electrostatic interaction with reaction-generated pH change on the kinetics of immobilized enzymes, B15
  - on the effectiveness factor of immobilized enzymes with linear mixed-type product inhibition kinetics, B23
- Ion exchange
  - kinetic mechanisms in ion exchange processes, 17
  - exploring the Maxwell-Stefan description of ion exchange, 75
- Ionic bubble
  - activity of the ionic bubbles during absorption with chemical reaction on column plates, 1
- Kinetics
  - kinetic mechanisms in ion exchange processes, 17
  - mathematical treatment of kinetics governing the synthesis of *N,N*-dialkylhydrazines by the Raschig process, 61
  - mass transfer in carbon molecular sieves—an interpretation of Langmuir kinetics, 137
  - modelling the effects of electrostatic interaction with reaction-generated pH change on the kinetics of immobilized enzymes, B15
  - on the effectiveness factor of immobilized enzymes with linear mixed-type product inhibition kinetics, B23
- Local flow behavior
  - local flow behavior of the liquid phase in an airlift bioreactor for potential use in animal cell suspension cultures, B31
- Mass transfer
  - mass transfer in carbon molecular sieves—an interpretation of Langmuir kinetics, 137
  - the Maxwell-Stefan description of mass transport across zeolite membranes, 155
  - modelling electrodialysis using the Maxwell-Stefan description, 163
  - modelling mass transfer in multicomponent distillation, 177
  - mass transfer-reaction coupling in two-phase multicomponent fluid systems, 189
  - the role of non-ideal phenomena in interfacial mass transfer with chemical reaction, 205
  - maxwell-Stefan approach in extractor design, 229
- Mass transfer coefficient
  - a new technique for the determination of mass transfer coefficients in packed columns for physical gas absorption systems, 67
- Mass transport
  - the use of the dusty-gas model for the description of mass transport with chemical reaction in porous media, 115
- Mathematica model
  - dynamic modelling of waste-water treatment plants based on *Lemna gibba*, B37
- Maxwell-Stefan theory
  - the Maxwell-Stefan description of mass transport across zeolite membranes, 155
- Measurement
  - determination of effective diffusivities and convective coefficients of pure gases in single pellets, 285
- Membrane
  - modelling electrodialysis using the Maxwell-Stefan description, 163
- Microfiltration—backwash process
  - optimization of a discontinuous microfiltration-backwash process, 247
- Microfiltration membranes
  - optimization of a discontinuous microfiltration-backwash process, 247
- Microporous diffusion
  - the Maxwell-Stefan description of mass transport across zeolite membranes, 155
- Microporous membrane
  - permeation and separation of light hydrocarbons through a silicalite-1 membrane. Application of the generalized Maxwell-Stefan equations, 145
  - extraction of trivalent europium via a supported liquid membrane containing PC-88A as a mobile carrier, 253
- Modelling
  - thermal modeling of tubular horizontal hot-wall low pressure chemical vapor deposition reactors, 39

- modelling the effects of electrostatic interaction with reaction-generated pH change on the kinetics of immobilized enzymes, B15
- Multicomponent
- mass transfer in carbon molecular sieves—an interpretation of Langmuir kinetics, 137
  - modelling electrodialysis using the Maxwell-Stefan description, 163
  - mass transfer-reaction coupling in two-phase multicomponent fluid systems, 189
  - multicomponent tray efficiencies accounting for entrainment, 237
- Multicomponent diffusion
- exploring the Maxwell-Stefan description of ion exchange, 75
  - multi-component diffusion phenomena in multiple-wafer chemical vapour deposition reactors, 127
  - the role of non-ideal phenomena in interfacial mass transfer with chemical reaction, 205
- Multicomponent distillation
- modelling mass transfer in multicomponent distillation, 177
- Multicomponent extraction
- Maxwell-Stefan approach in extractor design, 229
- Multicomponent mixtures
- dynamic transport of multicomponent mixtures of gases in porous solids, 91
- Numerical modelling
- multi-component diffusion phenomena in multiple-wafer chemical vapour deposition reactors, 127
- Operating parameters
- charcoal deashing by an oil agglomeration process: effect of various operating parameters, 9
- Outlet boundary condition
- on the outlet boundary condition for solids leaving slurry-bubble columns, 299
  - reply to "On the outlet boundary condition for solids leaving slurry-bubble columns", 303
- Packed column
- a new technique for the determination of mass transfer coefficients in packed columns for physical gas absorption systems, 67
- Packed reactive distillation column
- oscillatory vapor-liquid transport phenomena in a packed reactive distillation column for fuel ether production, 219
- Porous catalysts
- effect of forced convection on reaction with mole changes in porous catalysts, 101
- Porous media
- the use of the dusty-gas model for the description of mass transport with chemical reaction in porous media, 115
- Porous solids
- dynamic transport of multicomponent mixtures of gases in porous solids, 91
- Reaction kinetics
- intrinsic kinetics of the oxidation of methane over an industrial copper(II) oxide catalyst on a  $\gamma$ -alumina support, 273
- Reactor
- thermal modeling of tubular horizontal hot-wall low pressure chemical vapor deposition reactors, 39
- Separation
- permeation and separation of light hydrocarbons through a silicalite-1 membrane. Application of the generalized Maxwell-Stefan equations, 145
  - extraction of trivalent europium via a supported liquid membrane containing PC-88A as a mobile carrier, 253
- Separation processes
- Maxwell-Stefan approach in extractor design, 229
- Slurry-bubble columns
- on the outlet boundary condition for solids leaving slurry-bubble columns, 299
  - reply to "On the outlet boundary condition for solids leaving slurry-bubble columns", 303
- Solids
- on the outlet boundary condition for solids leaving slurry-bubble columns, 299
  - reply to "On the outlet boundary condition for solids leaving slurry-bubble columns", 303
- Sorbent
- determination of effective diffusivities and convective coefficients of pure gases in single pellets, 285
- Specific energy
- comprehensive models for computation of the specific energy of coals, 295
- Stefan-Maxwell equations
- multi-component diffusion phenomena in multiple-wafer chemical vapour deposition reactors, 127
- Stripping
- extraction of trivalent europium via a supported liquid membrane containing PC-88A as a mobile carrier, 253
- Synthesis
- mathematical treatment of kinetics governing the synthesis of *N,N*-dialkylhydrazines by the Raschig process, 61
- Temperature
- thermal modeling of tubular horizontal hot-wall low pressure chemical vapor deposition reactors, 39
- Ternary mixtures
- dynamic transport of multicomponent mixtures of gases in porous solids, 91
- Transport phenomena
- extraction of trivalent europium via a supported liquid membrane containing PC-88A as a mobile carrier, 253
- Turbulent flow
- effect of measurement method on the velocities used to demarcate the onset of turbulent fluidization, 261
- Two-phase flow
- effect of measurement method on the velocities used to demarcate the onset of turbulent fluidization, 261
- Two-phase multicomponents
- mass transfer-reaction coupling in two-phase multicomponent fluid systems, 189
- Vapor-liquid transport
- oscillatory vapor-liquid transport phenomena in a packed reactive distillation column for fuel ether production, 219
- Waste treatment
- dynamic modelling of waste-water treatment plants based on *Lemna gibba*, B37
- Waste-water
- dynamic modelling of waste-water treatment plants based on *Lemna gibba*, B37
- Zeolite
- permeation and separation of light hydrocarbons through a silicalite-1 membrane. Application of the generalized Maxwell-Stefan equations, 145
- Zeolite membrane
- the Maxwell-Stefan description of mass transport across zeolite membranes, 155

